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Time for a Systematic Analysis: U.S. Nuclear Weapons and Nuclear Proliferation

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The 2008 National Defense Authorization Act requires the next secretary of defense, in consultation with the secretaries of energy and state, to conduct a comprehensive review of the nuclear weapons posture of the United States.

The review must consider the role of nuclear forces in U.S. military strategy; requirements and objectives for deterrence; the relationship among nuclear deterrence, targeting strategy, and arms control objectives; the role of missile defense and conventional strike weapons; the levels and composition of nuclear delivery systems; the required nuclear weapons complex; and the active and inactive nuclear weapons stockpile, including plans for replacing or modifying warheads.[1]

The legislation does not explicitly call for the review to study what impact changes in the U.S. nuclear posture would have on nuclear weapons proliferation, although the reference to "arms control objectives" might be taken to encompass this. Yet, the incoming Obama administration will make its nuclear weapons decisions in the face of an array of diverging and sometimes contradictory assertions about this impact. Rather than merely selecting among these assertions, the new administration should conduct a comprehensive analysis and explicitly build it into nuclear weapons policymaking across the board. Core nuclear weapons decisions must rank among the incoming president's top priorities, despite an extremely crowded security and economics agenda. The nuclear posture review itself must be driven by the White House if it is to achieve consensus for the president's objectives.[2]

Diverging Assertions

In January 2007, former Secretaries of State George Shultz and Henry Kissinger, former Secretary of Defense William Perry, and former Senator Sam Nunn (D-Ga.) advocated nuclear weapons abolition in a *Wall Street Journal* editorial and asserted that a "solid consensus for reversing reliance on nuclear weapons globally" would be a "vital contribution to preventing their proliferation into potentially dangerous hands." [3] In their 2008 follow-on editorial, these authors added that "[t]he accelerated spread of nuclear weapons, nuclear know-how and nuclear material has brought us to a nuclear tipping point." Preventing this, they asserted, requires a clear statement of the ultimate goal of nuclear disarmament: "Without the vision of moving toward zero, we will not find the essential

cooperation required to stop our downward spiral."[\[4\]](#)

Speaking at the American Academy in Berlin in June 2008, Nunn put the point more directly: "[W]e believe [that, with a U.S. commitment to disarmament,] it would become more likely that many more nations will join us in a firm approach to stop the proliferation of nuclear weapons and materials and prevent catastrophic terrorism.... We cannot take these steps without the cooperation of other nations. We cannot get the cooperation of other nations without the vision and hope of a world that will someday end these weapons as a threat to mankind."[\[5\]](#) Others have argued that a vision for nuclear disarmament may influence future decisions by countries considering nuclear weapons development [\[6\]](#) or may help ensure that countries such as Argentina, Brazil, Canada, Germany, Japan, South Africa, and Sweden do not reconsider their decisions to forgo or give up nuclear weapons programs.[\[7\]](#)

Despite this, skeptics have been quick to insist that disarmament advocates have failed to establish a causal connection between the pursuit of disarmament and the prevention of nuclear weapons proliferation. In November 2007, *The Wall Street Journal* published a reply by former Defense Secretary Harold Brown and former Deputy Defense Secretary John Deutch titled "The Nuclear Disarmament Fantasy," in which the authors declared that "[a] nation that wishes to acquire nuclear weapons believes these weapons will improve its security. The declaration by the U.S. that it will move to eliminate nuclear weapons in a distant future will have no direct effect on changing this calculus. Indeed, nothing that the U.S. does to its nuclear posture will directly influence such a nation's (let alone a terrorist group's) calculus." Such steps, they assert, would also not "convince North Korea, Iran, India, Pakistan or Israel to give up their nuclear weapons programs." [\[8\]](#)

Brown and Deutch are hardly alone. A 2004 report to Congress by the secretaries of state, defense, and energy argued that "rogue state proliferation...marches forward independently of the U.S. nuclear program" and that "North Korea and Iran appear to seek [weapons of mass destruction (WMD)] in response to their own perceived security needs, in part, to deter the United States from taking steps to protect itself and allies in each of these regions. In this regard, their incentives to acquire WMD may be shaped more by U.S. advanced conventional weapons capabilities and our demonstrated will to employ them to great effect."[\[9\]](#)

Former Bush administration Assistant Secretary of State for Arms Control Stephen Rademaker agrees that U.S. nuclear weapons policy is irrelevant to Iranian or North Korean nuclear decision-making, which he argues is driven by hunger for power and prestige. Nevertheless, he asserts, "[s]o long as there is one nuclear weapon remaining in the U.S. inventory, [arms control activists] will point to this as the root cause of nuclear proliferation."[\[10\]](#)

A group of 11 members of the Bush administration's International Security

Advisory Board (ISAB) to the Department of State have argued that a key role of U.S. nuclear weapons policy is to help prevent nuclear proliferation by providing a "nuclear umbrella" to countries-31, by the authors' count-that might otherwise be tempted to develop their own nuclear weapons.[11] Similarly, the full ISAB claims that "[t]here is clear evidence in diplomatic channels that U.S. assurances to include the nuclear umbrella have been, and continue to be, the single most important reason many allies have forsworn nuclear weapons." [12] If this were the most salient nonproliferation role for U.S. nuclear weapons, careless moves toward disarmament might in fact drive proliferation rather than curtail it.

A Comprehensive Analysis

Even this small sampling of U.S. writings on the connection between U.S. nuclear weapons policy and nuclear proliferation reveals a host of diverging assertions. A systematic analysis remains to be formulated, but it is not difficult at least to frame such an analysis. Any upcoming revision of U.S. nuclear weapons policy should incorporate, as an intrinsic part of a nuclear policy and posture review, such an analysis of probable and possible impacts on the nonproliferation regime. This is not, of course, the same as saying that international impacts of U.S. policy should determine U.S. nuclear weapons policy. Still, it would be foolhardy and self-defeating not to try to understand and account for connections between U.S. decisions and the nuclear nonproliferation regime.

It may seem odd even to suggest that such an analysis is necessary. After all, an explicit connection is made between disarmament and nonproliferation in Article VI of the nuclear Nonproliferation Treaty (NPT). Article VI pledges all parties to the treaty and therefore the nuclear-weapon states in particular to pursue nuclear disarmament.[13] This is commonly viewed as representing one of three bargains contained in the treaty; in this case, the Article II pledge of the treaty's non-nuclear-weapon states not to acquire nuclear weapons is matched by the Article VI promise of the nuclear-weapon states for their eventual elimination.[14]

This connection between disarmament and nonproliferation was strongly reaffirmed as a condition of the 1995 indefinite extension of the NPT and expanded in the "13 practical steps" toward implementing Article VI agreed to at the 2000 NPT Review Conference. Certain commitments, including a Comprehensive Test Ban Treaty (CTBT) and the proposed fissile material cutoff treaty (FMCT), were made in 1995 by the nuclear-weapon states as part of a package to obtain the NPT's indefinite extension, so it is difficult not to see fulfilling this bargain as important to the ongoing health of the NPT. Indeed, Jayantha Dhanapala, president of the 1995 NPT Review and Extension Conference, has written that "[t]he extension of the NPT was achieved largely because the long-stalled [CTBT], generally seen as the litmus test of nuclear disarmament, was close to adoption." [15] Asked in a private survey what steps nuclear-weapon states could best take to demonstrate their commitment to disarmament, diplomats from 16 non-nuclear-weapon states prioritized the CTBT and FMCT, followed by further nuclear stockpile reductions.[16]

Apparently there has been little direct connection between U.S. nuclear weapons policy and decisions taken by Iran or North Korea to move toward or away from nuclear weapons. If anything, the historical evidence is for an anti-correlation because these countries vigorously pursued their programs during the same period that the United States substantially cut the size of its nuclear arsenal and pursued little nuclear modernization. During this same period, however, countries such as Argentina and Brazil moved away from nuclear weapons programs. An analysis of nearly 20 cases of nuclear reversal since 1945 identifies a range of factors that have been important in U.S. efforts to achieve the reversal of nuclear weapons aspirations, including the creation of a norm against proliferation and the U.S. exercise of restraint in its own nuclear strategy.^[17]

Certain U.S. allies could plausibly be pushed toward proliferation if they became sufficiently worried about the medium-term credibility of U.S. security assurances. There is also the argument, presented in the leaked portions of the Bush administration's 2001 Nuclear Posture Review and its 2002 National Security Strategy, that various military capabilities, including nuclear weapons capabilities, might dissuade certain countries either from choosing to proliferate or from attempting to match the United States in symmetric capabilities. Claims about the influence of U.S. nuclear weapons on different countries' proliferation decisions point in many directions at once.

Time to Disaggregate

Clearer thinking about the proliferation-relevant effects of U.S. nuclear weapons policy would be helped by disaggregating categories of countries that may be influenced by U.S. decisions. In doing so, we may find that some steps toward nuclear reductions bring with them pressures both against and for nuclear proliferation, depending on the different countries being considered. At the least, we need to understand this landscape for the purpose of risk analysis for any proposed steps. More expansively, the United States needs a comprehensive strategy that seeks to maximize nonproliferation effects and to minimize any proliferation drivers of its nuclear weapons policy. It may be necessary to supplement particular steps taken to reduce the salience of nuclear weapons in U.S. foreign policy-steps taken, at least in part, to counter proliferation-with accompanying efforts to offset any resulting pressure toward proliferation.

A conceptual first step is to divide states into four categories. Of course, in the end, countries will need to be addressed on an individual basis. A Brazilian diplomat recently remarked that "[t]here are no clean quid pro quos because nuclear-weapon states and non-nuclear-weapon states can't be organized into blocs."^[18] Nevertheless, even the simple typology of four categories of states demonstrates the need to look across a range of states and their relationships to the nonproliferation regime, rather than exclusively emphasizing any one category.

In particular, when assessing the proliferation effects of changes in U.S. nuclear

weapons policy, it will be useful to consider the impact on the following four categories of states: (1) the current nuclear powers; (2) determined proliferators; (3) nations relying on U.S. security assurances; and (4) other non-nuclear-weapon states. We should also consider two cross-cutting categories: states that have previously suspended nuclear weapons programs but are technically capable of reversing this decision; and the nuclear supplier states.

Current Nuclear Powers

It will be necessary to assess the role of U.S. nuclear weapons and use doctrine, including the role of U.S. ballistic missile defense programs, on the "vertical" proliferation and nuclear doctrines of the other nuclear powers, including the other four NPT-recognized nuclear-weapon states (China, France, Russia, and the United Kingdom) as well as India, Israel, and Pakistan. This is a vast topic. Specific important issues would include the interaction between U.S. nuclear policy and Chinese strategic plans, the ongoing evolution of the U.S.-Russian strategic relationship, and the influence that U.S. nuclear use doctrine may have on other countries' doctrinal choices.

Beyond issues of vertical proliferation lies the extent to which U.S. nuclear weapons policy influences other nuclear powers' decisions regarding "horizontal" proliferation, decisions that range from the establishment and enforcement of their own physical protection and export control regimes to their participation in multilateral initiatives and processes and their willingness to support particular actions, such as sanctions against countries that appear to be in pursuit of nuclear weapons. To date, advances in physical protection and export controls among the nuclear powers apparently have been somewhat insulated from issues of nuclear weapons posture.

Determined Proliferators

A determined proliferator is a country that appears to be making a serious effort toward nuclear weapons or nuclear weapons capability. "Determined" is not meant to be synonymous with "inevitable" or even "implacable." The country's policy may prove to be reversible, as was the case for Libya.

There is something close to a consensus among U.S. commentators that states such as Iran or North Korea are not strongly directly affected in their pursuit of nuclear weapons options by the details of U.S. nuclear weapons policy. This undermines some hopes for dissuasion, for example as expressed in the 2001 Nuclear Posture Review, which reportedly stated that U.S. military forces, including nuclear forces, would be used to "dissuade adversaries from undertaking military programs or operations that could threaten U.S. interests or those of allies and friends."^[19] Evidently, neither Iran nor North Korea were dissuaded from their nuclear programs by U.S. nuclear capabilities, although fears of U.S. military action may have played a role in the Clinton administration winning North Korean support for the 1994 Agreed Framework and in driving the

programmatic and geographical diversity of Iran's nuclear initiatives. Libya's long and complicated decision to renounce its WMD programs seems to have been influenced by fear of U.S. military capabilities, although there is little evidence that U.S. nuclear weapons specifically played an important role. [20]

The United States has repeatedly demonstrated its willingness to use its conventional forces as a coercive or even regime-changing tool. Famously, after the end of the Persian Gulf War in 1991, India's chief of army staff was quoted saying that the lesson of the war was "[d]on't fight the Americans without nuclear weapons." [21] Indeed, there is a commonly expressed U.S. view inside and outside the Bush administration that overwhelming U.S. conventional capabilities have provided a stronger driver for nuclear proliferation than nuclear weapons. [22]

The remaining question is the extent to which countries that are already nuclear powers or that are pursuing nuclear weapons or a nuclear weapons option can be influenced indirectly by the overall strength of the nonproliferation regime and in particular by actions initiated or supported by non-nuclear-weapon states-parties to the NPT.

Assured Nations

A key disagreement in U.S. thinking about the nonproliferation regime is whether the regime is more threatened by a failure of U.S. leadership with respect to NPT Article VI obligations or by a failure of U.S. assurance policy, i.e., the confidence that regional friends and allies have in U.S. security commitments and ultimately the U.S. nuclear umbrella. The U.S. nuclear deterrent assurance provides an important reason why Japan has not pursued its own nuclear weapons capability, even while its stockpile of plutonium provides it with a hedge. [23] The ISAB "is convinced that a lessening of the U.S. nuclear umbrella could very well trigger a [nuclear proliferation] cascade in East Asia and the Middle East." [24] A survey undertaken in 2006 by Science Applications International Corporation (SAIC) for the Defense Threat Reduction Agency concluded that U.S. extended nuclear deterrence was less critical now to many countries that relied on U.S. security assurances during the Cold War, but that extended deterrence was still seen as "essential to security" by Australia, Japan, Turkey, and new NATO members. [25] Were just one power nudged toward a nuclear weapons acquisition decision by changes in U.S. nuclear weapons policy, that would be a risk sufficient to merit serious concern and mitigating steps.

Other Non-Nuclear-Weapon States

The vast majority of non-nuclear-weapon states that are signatories to the NPT are not under specific U.S. security assurances and are also unlikely to pursue nuclear weapons on their own. They nevertheless may play a crucial role in the overall health of the nonproliferation regime, whether through the vigor with which they adopt and implement UN Security Council Resolution 1540, requiring

all countries to implement improvements in the control of WMD-related technologies; their willingness to adopt versions of the International Atomic Energy Agency's (IAEA) 1997 Model Additional Protocol for expanded nuclear inspections and monitoring; or their willingness to support sanctions or other steps against determined proliferators and thus influence those and other countries' decisions.

There has been too little empirical work dedicated to understanding what role U.S. nuclear weapons policy actually plays in these states' nonproliferation decisions. Disentangling rhetoric from reality and being conscious of how discovered answers to this question may depend on the preferences of the analyst asking the question or on the bureaucratic institution the non-nuclear-weapon-state official represents, may prove especially challenging. For example, foreign ministry officials might be more likely to blame pursuit of nuclear weapons on U.S. nuclear weapons policy and Article VI failings, whereas individuals working on the technical program within an energy or defense ministry might be motivated by quite different drivers.

A subset of these countries is especially influential and demands the greatest study. Within the New Agenda Coalition, these include Egypt and South Africa. [26] South Africa, for example, is estimated to hold more than 300 kilograms of weapons-grade highly enriched uranium (HEU) in storage at Pelindaba, under IAEA monitoring. [27] Because it has built and then dismantled half a dozen nuclear weapons, it must be considered a latent nuclear power. It cautioned in 2005 that although proliferation concerns may require improved controls on peaceful nuclear energy, the NPT is "not an à la carte menu from which states parties may choose their preferences" and that "[t]here is a growing concern that while demands are being made for non-nuclear-weapon states to agree to new measures in the name of non-proliferation, concrete actions towards nuclear disarmament are neglected." [28] Its representative on the IAEA Board of Governors repeated this formulation in 2006 in the context of global efforts to reduce civilian use and availability of HEU, a fundamental nonproliferation objective. [29]

A recent advisory commission to the IAEA, chaired by former Mexican President Ernesto Zedillo and including members from 17 other countries, concluded that "progress toward disarmament, or the lack of it, will deeply affect the success of the IAEA's nonproliferation mission" and warned that many non-nuclear-weapon states are reluctant to implement the 1997 Model Additional Protocol, phase out HEU, or enter into multilateral fuel-cycle arrangements without further progress on nuclear disarmament. [30] Diplomats of U.S. allies, including Australia, Canada, Germany, and Japan, have "resoundingly" stated in anonymous interviews that progress in disarmament measures, taken to include the CTBT and FMCT, would make it easier for them to work for progress on nonproliferation with the developing countries represented by the Nonaligned Movement. [31] The same message was concluded from a broader survey of written material complemented with individual and group discussions conducted

by SAIC. [32] Note that Australian and Japanese officials have also indicated the importance of the U.S. extended deterrent. This either illustrates different views co-existing within a government's bureaucracies or shows that these countries view at least some important steps in nuclear disarmament as compatible with maintaining a credible extended deterrent.

In addition to the four categories of states just considered, cross-cutting categories should be considered. One such category is the list of nuclear-capable states, either those nearly 50 states that have the industrial and engineering capacity to pursue nuclear weapons [33] or that subset that once pursued nuclear weapons but subsequently reversed direction. [34] Outside the determined proliferators category, assuming that nuclear transfer can be prevented, these states are those of most direct concern when considering the effects of U.S. nuclear weapons policy on proliferation decisions. Similarly, the nuclear supplier states are of great interest with respect to the role of U.S. nuclear weapons policy on decisions to proliferate relevant technology. Increasingly, states that are not traditional suppliers (recalling the Malaysian company Scomi Precision Engineering's role in the A.Q. Khan nuclear smuggling network, for example) may be important as well. [35]

Conclusion

There is a clear and powerful diplomatic connection, embodied in NPT Article VI and in that treaty's indefinite extension, between U.S. and other permanent Security Council members' nuclear weapons policy and nuclear nonproliferation. The Article VI connection, however, only captures part of the story. With respect to certain states, U.S. moves toward nuclear disarmament may have little influence on proliferation objectives or, in some cases, might even provide pressure toward proliferation. This does not mean that substantial reductions in U.S. nuclear weapons or other steps, such as CTBT ratification, consistent with Article VI should not be pursued. The existing evidence is that these steps would advance U.S. nonproliferation objectives with non-nuclear-weapon states, although some, such as CTBT ratification, are viewed as long overdue and are unlikely to lead directly to further movement on nonproliferation by the non-nuclear-weapon states. [36] Rather, it means that as the United States does so, it should be clear about what it hopes to achieve, be clear about what such steps will not achieve, and pay close attention to the mitigation of any proliferation risks.

The Bush administration's nuclear posture gave the impression overseas of having expanded the potential circumstances under which and the countries against whom nuclear weapons might be used. [37] This posture clearly carries its own proliferation risks, by alienating potential partners in the struggle against proliferation within the NPT framework and signaling to all the ongoing salience of nuclear weapons in foreign policy. National security objectives of the new U.S. administration should include mitigating these risks as part of a careful overall change in nuclear posture. A framework for the systematic analysis of

proliferation consequences should be part of a comprehensive strategy that seeks to maximize nonproliferation effects and minimize any proliferation drivers of U.S. nuclear weapons policy.

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ENDNOTES

1. National Defense Authorization Act for Fiscal Year 2008, Pub. L. No. 110-181, Sec. 1070, 122 Stat. 3, 327 (2008). 2. Janne E. Nolan, *An Elusive Consensus: Nuclear Weapons and American Security After the Cold War* (Washington, DC: Brookings Institution Press, 1999). 3. George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, "A World Free of Nuclear Weapons," *The Wall Street Journal*, January 4, 2007, p. A15. 4. George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, "Toward a Nuclear-Free World," *The Wall Street Journal*, January 15, 2008, p. A13. 5. Sam Nunn, "The Race Between Cooperation and Catastrophe" (speech, American Academy, Berlin, June 12, 2008), p. 2. 6. Sidney Drell and James Goodby, "The Reality: A Goal of a World Without Nuclear Weapons Is Essential," *The Washington Quarterly*, Vol. 31, No. 3 (Summer 2008), p. 30. 7. George Perkovich et al., *Universal Compliance: A Strategy for Nuclear Security* (Washington, DC: Carnegie Endowment, 2005), p. 150. 8. Harold Brown and John Deutch, "The Nuclear Disarmament Fantasy," *The Wall Street Journal*, November 19, 2007, p. 9. 9. "An Assessment of the Impact of Repeal of the Prohibition on Low Yield Warhead Development on the Ability of the United States to Achieve Its Nonproliferation Objectives," March 2004 (report submitted to Congress in response to the National Defense Authorization Act for Fiscal Year 2004) (hereinafter PLYWD report). 10. Stephen Rademaker, "Blame America First," *The Wall Street Journal*, May 7, 2007, p. 15. 11. Kathleen Bailey et al., "White Paper on the Necessity of the U.S. Nuclear Deterrent," August 15, 2007. 12. International Security Advisory Board (ISAB), "Report on Discouraging a Cascade of Nuclear Weapons States," October 19, 2007, p. 23. 13. China, France, Russia, the United Kingdom, and the United States are the nuclear-weapon states recognized by the treaty. All other parties are non-nuclear-weapon states under the treaty. Only four countries (India, Israel, North Korea, and Pakistan) are not parties to the treaty. Article VI of the NPT reads, in full, "Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control." 14. The NPT's three bargains are often described to be (1) a bargain between the non-nuclear-weapon states and the nuclear-weapon states that the former will not acquire nuclear weapons (Article II) but the latter will ultimately give them up (Article VI); (2) a bargain between the non-nuclear-weapon states

and the nuclear-weapon states that the former will not acquire nuclear weapons and will submit to safeguards and verification to ensure that that is so (Article III), but nevertheless retain an “inalienable right...to develop research, production and use of nuclear energy for peaceful purposes” and “have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy” (Article IV); and (3) an implicit bargain among the non-nuclear-weapon states themselves that each will forgo nuclear weapons, provided the others do so. This last understanding alleviates the “prisoner’s dilemma” that each non-nuclear-weapon state faces in deciding to forgo a powerful military technology. **15.** Jayantha Dhanapala, “Fulfill and Strengthen the Bargain,” *Arms Control Today*, June 2008, pp. 14-16. **16.** Deepti Choubey, “Are New Nuclear Bargains Attainable?” Carnegie Endowment for International Peace, October 2008, pp. 15-17. **17.** Ariel E. Levite, “Never Say Never Again: Nuclear Reversal Revisited,” *International Security*, Vol. 27, No. 3 (Winter 2002/03), pp. 59-88. **18.** Choubey, “Are New Nuclear Bargains Attainable?” p. 3. **19.** “Nuclear Posture Review [leaked excerpts],” January 8, 2002, www.globalsecurity.org/wmd/library/policy/dod/npr.htm. **20.** For a discussion of the drivers for the Libyan decision, see Bruce W. Jentleson and Christopher A. Whytock, “Who ‘Won’ Libya? The Force-Diplomacy Debate and Its Implications for Theory and Policy,” *International Security*, Vol. 30, No. 3 (Winter 2005/06), pp. 47-86. **21.** Patrick J. Garrity, “Why the Gulf War Still Matters: Foreign Perspectives on the War and the Future of International Security,” Center for National Security Studies, July 1993, p. xiv. **22.** See, e.g., Kurt M. Campbell and Robert J. Einhorn, “Avoiding the Tipping Point: Concluding Observations,” in *The Nuclear Tipping Point*, ed. Kurt M. Campbell, Robert J. Einhorn, and Mitchell B. Reiss (Washington, DC: Brookings Institution Press, 2004), p. 323. See also PLYWD report. **23.** Kurt M. Campbell and Tsuyoshi Sunohara, “Japan: Thinking the Unthinkable,” in *The Nuclear Tipping Point*, ed. Kurt M. Campbell, Robert J. Einhorn, and Mitchell B. Reiss (Washington, DC: Brookings Institution Press, 2004), p. 236; Hajime Izumi and Katsuhisa Furukawa, “Not Going Nuclear: Japan’s Response to North Korea’s Nuclear Test,” *Arms Control Today*, June 2007, pp. 6-11. **24.** ISAB, “Report on Discouraging a Cascade of Nuclear Weapons States,” p. 23. **25.** Lewis A. Dunn et al., “Foreign Perspectives on U.S. Nuclear Policy and Posture: Insights, Issues and Implications,” DTRA01-03-D-0017, TI-18-05-21, December 12, 2006. **26.** The New Agenda Coalition comprises Brazil, Egypt, Ireland, Mexico, New Zealand, South Africa, and Sweden. This group of middle-power countries is credited with driving the 13 steps agreement at the 2000 NPT Review Conference. **27.** David Albright, Frans Berkhout, and William Walker, *Plutonium and Highly Enriched Uranium 1996: World Inventories, Capabilities and Policies* (Oxford: Oxford University Press, 1997), p. 391. **28.** “Statement by the Republic of South Africa on the Peaceful Uses of Nuclear Energy (Main Committee III), New York, 2-17 May 2005,” www.dfa.gov.za/docs/speeches/2005/mint0822a.htm. **29.** Abdul Minty, “South African Perspectives on Highly Enriched Uranium (HEU)” (statement, International Symposium on Highly Enriched Uranium, Oslo, June 19-20, 2006),

www.nrpa.no/symposium/documents/Minty%20HEU%20Oslo%20June%202006.pdf. 30. “Reinforcing the Global Nuclear Order for Peace and Prosperity: The Role of the IAEA to 2020 and Beyond,” May 2008, pp. 15-16, www.iaea.org/NewsCenter/News/PDF/2020report0508.pdf. 31. Choubey, “Are New Nuclear Bargains Attainable?” pp. 17-18. 32. Dunn et al., “Foreign Perspectives on U.S. Nuclear Policy and Posture.” 33. See Jacques E.C. Hymans, *The Psychology of Nuclear Proliferation: Identity, Emotions, and Foreign Policy* (Cambridge: CUP, 2006), p. 4. For a discussion of the criteria comprising “nuclear-capable,” see Stephen M. Meyer, *The Dynamics of Nuclear Proliferation* (Chicago: University of Chicago Press, 1984), app. B. 34. Levite, “Never Say Never Again.” 35. Chaim Braun and Christopher F. Chyba, “Proliferation Rings: New Challenges to the Nuclear Nonproliferation Regime,” *International Security*, Vol. 29, No. 3 (Fall 2004), pp. 5-49. 36. Choubey, “Are New Nuclear Bargains Attainable?” 37. See Dunn et al., “Foreign Perspectives on U.S. Nuclear Policy and Posture.”